

We claim:

1. An environment that is reconfigurable to facilitate the interaction of agents within the environment in accordance with a predetermined model of the interaction of the agents that prescribes appropriate environment conditions based on the status of agent interaction within the system of the interaction of the agents, the environment comprising:

means for determining the location of physical components within the environment;

means for reconfiguring physical components within the environment;

means for determining the lighting characteristics in a plurality of discrete regions

within the environment;

means for adjusting lighting within the environment;

means for monitoring sound within the environment;

means for adjusting sound within the environment;

means for monitoring and determining the status of agent interaction within the environment; and

means for reconfiguring physical components and adjusting lighting and sound within the environment in response to the determination of the status of agent interaction within the environment.

2. The environment of claim 1, wherein the means for determining the location of physical components within the environment comprises occupancy sensors and a general purpose programmable computer.

3. The environment of claim 1, wherein the means for reconfiguring physical components within the environment comprises rolling work walls.

4. The environment of claim 1, wherein the means for reconfiguring physical components within the environment comprises workpods on rolling casters.

5. The environment of claim 1, wherein the means for reconfiguring physical components within the environment comprises a rolling kiosk component.

6. The environment of claim 1, wherein the means for reconfiguring physical components within the environment comprises stackable shelf cubes.

5 7. The environment of claim 1, wherein the means for reconfiguring physical components within the environment comprises a rolling wing work surface component.

8. The environment of claim 1, wherein the means for determining the lighting characteristics in a plurality of discrete regions within the environment comprises light  
10 sensors connected to a general purpose programmable computer.

9. The environment of claim 1, wherein the means for adjusting lighting within the environment comprises variable intensity lights connected to a general purpose programmable computer.

10. The environment of claim 1, wherein the means for monitoring sound within the environment comprises microphones connected to a general purpose programmable computer;

11. The environment of claim 1, wherein the means for adjusting sound within the environment comprises distributed mode panel speakers.

12. The environment of claim 1, wherein the means for monitoring and determining the status of agent interaction within the environment comprises a general purpose programmable  
25 computer;

13. The environment of claim 1, wherein the means for reconfiguring physical components and adjusting lighting and sound within the environment in response to the determination of the status of agent interaction within the environment comprises a general  
30 purpose programmable computer. An iterative, feedback driven system for optimizing interaction among agents acting on multiple levels, the system comprising:

a plurality of real agents each real agent having a plurality of characteristics;  
 means for allowing at least some of the agents to control the degree to which data  
 corresponding to characteristics is revealed to other agents;  
 means for allowing agents to control other agents, including themselves;  
 5 means for allowing the agents to possess access or use privileges with respect to access  
 or use of other agents;  
 means for measuring actual performance of agents;  
 means for inputting expected performance of agents;  
 means for comparing actual performance of agents to expected performance of agents;  
 10 means for modifying agents based on the difference between actual performance of  
 agents and expected performance of agents; and  
 means for allowing communication between agents limited to what the agents reveal  
 about themselves.

14. A method of optimizing agent pattern language values in collaborative environments  
 that are subject to predetermined architectural rules, the method comprising the steps of:  
 determining an objective to be achieved  
 identifying architectural and pattern language values that achieve the objective;  
 determining environment parameters  
 20 modeling the environment  
 identifying objects available for use within the environment  
 creating a model of the environment that identifies objects to be used within the  
 environment and location of the objects within the environment  
 determining whether the location of the objects within the environment satisfies the  
 25 predetermined architectural rules and repeating the step of locating objects within the  
 environment until the location of the objects within the environment is determined to satisfy  
 the predetermined architectural rules;  
 assessing the extent to which architectural and pattern language values are achieved;  
 and  
 30 repeating the steps of locating objects in the model of the environment, determining  
 whether the location of the objects within the environment satisfies the predetermined

architectural rules pattern and assessing the extent to which architectural and pattern language values are achieved until the design is determined to be complete.

15. The method of optimizing agent pattern language values in collaborative environments according to claim 14, wherein the model of the environment is displayed on a computer monitor and the completed design is printed by a printer.

16. A system for optimizing agent pattern language values in collaborative environments that are subject to predetermined architectural rules, the system comprising:

- means for inputting an objective to be achieved;
- means for identifying architectural and pattern language values that achieve the objective;
- means for inputting environment parameters;
- means for displaying a model of the environment;
- means for displaying a representation of a plurality objects available for use within the environment;
- means for locating the representation of an object at a location within the displayed model of the environment;
- means for determining whether the location of the objects within the environment satisfies the predetermined architectural rules and repeating the step of locating objects within the environment until the location of the objects within the environment is determined to satisfy the predetermined architectural rules;
- means for assessing the extent to which architectural and pattern language values are achieved; and
- means for repeating the steps of locating objects in the model of the environment, determining whether the location of the objects within the environment satisfies the predetermined architectural rules pattern and assessing the extent to which architectural and pattern language values are achieved until the design is determined to be complete.

17. The system for optimizing agent pattern language values in collaborative environments according to claim 16, wherein the system includes a general purpose programmable computer an input device and a display monitor;

5 18 The system for optimizing agent pattern language values in collaborative environments according to claim 16, wherein the means for displaying comprises a display monitor connected to the general purpose programmable computer ;

19. The system for optimizing agent pattern language values in collaborative environments according to claim 16, wherein the system comprises a printer.

20. An iterative, feedback driven system for optimizing interaction among agents acting on multiple levels, the system comprising:

- a plurality of real agents each real agent having a plurality of characteristics;
- means for allowing at least some of the agents to control the degree to which data corresponding to characteristics is revealed to other agents;
- means for allowing agents to control other agents, including themselves;
- means for allowing the agents to possess access or use privileges with respect to access or use of other agents;
- means for measuring actual performance of agents;
- means for inputting expected performance of agents;
- means for comparing actual performance of agents to expected performance of agents;
- means for modifying agents based on the difference between actual performance of agents and expected performance of agents; and
- 25 means for allowing communication between agents limited to what the agents reveal about themselves.

21. The system of Claim 20, used for optimizing agent pattern language values in collaborative environments the system further comprising;

30 means for creating virtual agents to represent real agents in the system, each of the agents containing data corresponding to some characteristic of the real agent represented;

means for at least some of the virtual agents having an access/use characteristic that allows access or use only to agents having access privilege corresponding to the agent;

means for allowing agents to control what is revealed by those agents that they control;

5 means for allowing agents to modify the agents that they control; and

means for determining the location of agents within the system.

22. An iterative, feedback driven method for optimizing interaction acting on multiple levels, the method comprising:

10 identifying a plurality of real agents each real agent having a plurality of characteristics;

allowing at least some of the agents to control the degree to which data corresponding to characteristics is revealed to other agents ;

allowing agents to control other agents, including themselves;

15 allowing the agents to possess access or use privileges with respect to access or use of other agents;

measuring actual performance of agents;

inputting expected performance of agents;

comparing actual performance of agents to expected performance of agents;

20 modifying agents based on the difference between actual performance of agents and expected performance of agents; and

allowing communication between agents limited to what the agents reveal about themselves.

25 23. The method of Claim 22, used for optimizing agent pattern language values in collaborative environments the method further comprising the steps of;

creating virtual agents to represent real agents each of the agents containing data corresponding to some characteristic of the real agent represented;

at least some of the virtual agents having a access/use characteristic that allows

30 access or use only to agents having access privilege corresponding to the agent;

allowing agents to control what is revealed by those agents that they control;

allowing agents to modify the agents that they control; and  
determining the location of agents.

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